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| BRAY, STEPHEN A | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/583,400

Applicant(s)

GILLIES ET AL.

Examiner

STEPHEN A. BRAY

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-16, 21-24 is/are rejected.
- 7) ☒ Claim(s) 6-7 and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 6/16/2006

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Objections

1. Claims 2 and 6 recite the limitation "said electronic ink layer (73)..." in line 2 of claim 2 and line 4 of claim 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 5, 8-9, 12-13, 16, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comiskey et al (US 2003/0067427) in view of Fujita et al (US 5,122,787).

Regarding claim 1, *Comiskey et al* discloses an electronic ink stack (70) (Paragraphs [0111] and Figure 17 disclose a display system 170 which uses an encapsulated display medium.), comprising:

a front electrode (74) (Paragraphs [0111] and Figure 17 disclose a top electrode 172.);

a back electrode (71, 78) (Paragraphs [0111] and Figure 17 disclose a rear electrode 172.);

an layer (73) disposed between said front electrode (74) and said back electrode (71, 78) (Paragraphs [0111] and Figure 17 disclose an encapsulated display medium 174.).

Comiskey et al fails to teach having at least one location code (75, 77, 79) embedded within at least one of said front electrode (74) and said back electrode (71, 78).

Fujita et al discloses at least one location code (75, 77, 79) embedded within at least one of said front electrode (74) and said back electrode (71, 78) (Figure 3 and Column 4, lines 1-16 disclose having electrodes 1a and 1b patterned into desired shapes at the cross points of the electrodes, the patterned shapes being dependent upon the location of the cross points on the display.).

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to further modify the display taught by *Comiskey et al* with the teachings of *Fujita et al* in order to form a display device in which the location of a specified position on the display device can be determined with increased accuracy.

Regarding claim 2, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 1,

wherein said electronic ink layer (73) includes an electrophoretic ink (Claim 28 of *Comiskey et al* discloses that the display media 174 is composed of a plurality of electrophoretic particles.).

Regarding claim 5, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 1,

wherein an application of a coding voltage pulse between said front electrode (74) and said back electrode (71, 78) produces a coded image for revealing at least one location code (75, 77, 79) (Figure 3 and Column 4, lines 1-16 of *Fujita et al* discloses having electrodes 1a and 1b formed into a specific pattern at the cross points of electrodes 1a and 1b. Column 2, lines 19-20 disclose that electrodes 1a and 1b are transparent. It is obvious that the patterns formed at the cross points of the electrodes will become visible when a voltage is applied to the electrodes.).

Regarding claim 8, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 1, further comprising:

a photoconductor layer (72, 76) disposed between said front electrode (74) and said back electrode (71, 78) (Figure 17 and paragraph [0111] of *Comiskey et al* discloses a photoconductive layer 173 which is located between rear electrode 172 and a top electrode 176.).

Regarding claim 9, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 8,

wherein said least one location code (75, 77, 79) is embedded within at least one of said front electrode (74), said back electrode (71, 78) and said photoconductor layer (72, 76) (Figure 3 and Column 4, lines 1-16 of *Fujita et al* disclose having electrodes 1a and 1b patterned into a desired shape at the cross points of the electrodes, the pattern specific to that location on the display.).

Regarding claim 12, *Comiskey et al* as modified above discloses an electronic ink system (20), comprising:

an electronic ink stack (70) including (Paragraphs [0111] and Figure 17 of *Comiskey et al* disclose a display system 170 which uses an encapsulated display medium.)

a front electrode (74) (Paragraphs [0111] and Figure 17 of *Comiskey et al* disclose a top electrode 172.),

a back electrode (71, 78) (Paragraphs [0111] and Figure 17 of *Comiskey et al* disclose a rear electrode 172.),

an electronic ink layer (73) disposed between said front electrode (74) and said back electrode (71, 78) (Paragraphs [0111] and Figure 17 of *Comiskey et al* disclose an encapsulated display medium 174. Claim 28 of *Comiskey et al* discloses that the display media 174 is composed of a plurality of electrophoretic particles.), and

at least one location code (75, 77, 79) embedded within at least one of said front electrode (74) and said back electrode (71, 78) (Figure 3 and Column 4, lines 1-16 of *Fujita et al* disclose having electrodes 1a and 1b patterned into a desired shape at the cross points of the electrodes, the pattern specific to that location on the display.); and

a controllable voltage source (60) operable to apply voltages between said front electrode (74) and said back electrode (71, 78) (Paragraph [0111] of *Comiskey et al* disclose s a means for generating an electric field between electrodes 172 and 176. Paragraph [0058] of *Comiskey et al* also discloses applying an AC or DC voltage to the electrodes of the display through a voltage source. Therefore it would have been obvious that the voltage source taught in paragraph [0058] could be added to the display taught in paragraph [0111] and used to generate the electric field.).

Regarding claim 13, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 12,

wherein said electronic ink layer (73) includes an electrophoretic ink (Claim 28 of *Comiskey et al* discloses that the display media 174 is composed of a plurality of electrophoretic particles.).

Regarding claim 16, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 12,

wherein said controllable voltage source (60) is operable to apply a coding voltage pulse between said front electrode (74) and said back electrode (71, 78) to thereby produce a coded image for revealing the at least one location code (75, 77, 79) (Figure 3 and Column 4, lines 1-16 of *Fujita et al* discloses having electrodes 1a and 1b formed into a specific pattern at the cross points of electrodes 1a and 1b. Column 2, lines 19-20 disclose that electrodes 1a and 1b are transparent. It is obvious that the patterns formed at the cross points of the electrodes will become visible when a voltage is applied to the electrodes.).

Regarding claim 21, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 12, wherein said electronic ink stack (70) further includes:

a photoconductor layer (72, 76) disposed between said front electrode (74) and said back electrode (71, 78) (Figure 17 and paragraph [0111] of *Comiskey et al* discloses a photoconductive layer 173 which is located between rear electrode 172 and a top electrode 176.).

Regarding claim 22, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 21,

wherein said least one location code (75, 77, 79) is embedded within at least one of said front electrode (74), said back electrode (71, 78) and said photoconductor layer (72, 76) (Figure 3 and Column 4, lines 1-16 of *Fujita et al* disclose having electrodes 1a and 1b patterned into a desired shape at the cross points of the electrodes, the pattern specific to that location on the display.).

4. Claims 3-4, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Comiskey et al* in view of *Fujita et al* as applied to claim 1 above, and further in view of *White* (US 4,650,288).

Regarding claim 3, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 1.

Comiskey et al as modified above fails to teach wherein a first location code is a hole (79) extending through said back electrode (78).

White discloses wherein a first location code is a hole (79) extending through said back electrode (78) (Figure 2 and Column 1, lines 60-68 and Column 2, lines 1-4 disclose having electrodes 14 having minute holes 18 drilled in them.).

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to further modify the display taught by *Comiskey et al* with the teachings of *White* in order to form a display device in which the electrodes consume less power.

Regarding claim 4, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 1,

wherein a first location code is a hole (79) extending through said front electrode (74) (Figure 2 and Column 1, lines 60-68 and Column 2, lines 1-4 of *White* disclose having electrodes 14 having minute holes 18 drilled in them. It would be obvious that the same procedure could be used with electrode 16 to realize a further reduction in power consumption.).

Regarding claim 14, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 12,

wherein a first location code is a hole (79) extending through said back electrode (78) (Figure 2 and Column 1, lines 60-68 and Column 2, lines 1-4 of *White* disclose having electrodes 14 having minute holes 18 drilled in them.).

Regarding claim 15, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 12,

wherein a first location code is a hole (79) extending through said front electrode (74) (Figure 2 and Column 1, lines 60-68 and Column 2, lines 1-4 of *White* disclose having electrodes 14 having minute holes 18 drilled in them. It would be obvious that the same procedure could be used with electrode 16 to realize a further reduction in power consumption.).

5. Claims 10-11, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Comiskey et al* in view of *Fujita et al* as applied to claims 9 and 22 above, and further in view of *White* (US 4,686,524).

Regarding claim 10, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 9,

Comiskey et al as modified above fails to teach wherein a first location code is an insulation pad (75) disposed within said photoconductor layer (72, 76).

White discloses wherein a first location code is an insulation pad (75) disposed within said photoconductor layer (72, 76) (Figures 3-6 disclose disposing insulation strips 7 around photoconductor layer 9.).

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to further modify the display device taught by *Comiskey et al* with the teachings of *White* (US 4,686,524) in order to form a display device in which real time viewing is provided without a reset cycle, thus omitting viewer discomfort which occurs when blanking of the display is performed.

Regarding claim 11, *Comiskey et al* as modified above discloses the electronic ink stack (70) of claim 9,

wherein a first location code is an indentation (77) in said photoconductor layer (72, 76) (Figure 11 of *White(US 4,686,524)* discloses having photoconductor layer 9 disposed onto substrate 3 with indentions in the surface of the photoconductive layer where electrodes 14 and 24 are disposed onto substrate 3.).

Regarding claim 23, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 22,

wherein a first location code is an insulation pad (75) disposed within said photoconductor layer (72, 76) (Figures 3-6 of *White(US 4,686,524)* disclose disposing insulation strips 7 around photoconductor layer 9.).

Regarding claim 24, *Comiskey et al* as modified above discloses the electronic ink system (20) of claim 23,

wherein a first location code is (77) in said photoconductor layer (72, 76) (Figure 11 of *White(US 4,686,524)* discloses having photoconductor layer 9 disposed onto substrate 3 with indentions in the surface of the photoconductive layer where electrodes 14 and 24 are disposed onto substrate 3.).

Allowable Subject Matter

6. Claims 6-7, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Lazzouni et al* (US 5,661,506) discloses a writing paper which has a prerecorded invisible pattern disposed thereon that enables an input device to determine where on the piece of writing paper data entry, i.e. writing or drawing, is occurring.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN A. BRAY whose telephone number is (571)270-7124. The examiner can normally be reached on Monday - Friday, 9:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AMR AWAD can be reached on (571)272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/STEPHEN A BRAY/
Examiner, Art Unit 2629

/Amr Awad/
Supervisory Patent Examiner, Art Unit 2629

26 May 2009